THE ALTERNATIVE TECHNOLOGIES AND APPROACHES PROGRAM

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Background

In 1982, after reviewing and testing various disposal technologies, the U.S. Army selected incineration as the best disposal method for its stockpile of chemical agents and weapons. In 1985, federal legislation actually mandated the disposal of the Nation's chemical agent stockpile. However, in 1992, in response to growing public concern surrounding incineration, Congress tasked the Army to assess alternative technologies for chemical weapons disposal. Subsequently, responsibility for the independent assessment of alternative technologies was turned over to the National Academy of Sciences' National Research Council (NRC).

In 1994, NRC and Army assessments called for an evaluation of "neutralization" for disposing of bulk agents stored in steel containers. Shortly thereafter, the Alternative Technologies and Approaches (ATA) Program Office was established to investigate neutralization for disposal of bulk HD (blister agent mustard) stored at the Aberdeen Chemical Agent Disposal Facility (ABCDF) in Edgewood, MD, and the Newport Chemical Agent Disposal Facility (NECDF) in Indiana.

In 1995, the ATA Program Office also solicited concept design packages for chemical agent disposal technologies via the *Commerce Business Daily*. More than 23 designs were submitted and reviewed, and three technologies were chosen for further evaluation. The evaluations were conducted by the NRC, the Army Materiel Systems Analysis Activity, a core evaluation team consisting of subject matter experts from government and industry, and the Maryland and Indiana Citizens Advisory Commissions (CACs). Subsequently, unanimous recommendation was made to use hydrolysis followed by biotreatment for HD destruction, and hydrolysis followed by supercritical water oxidation for VX destruction.

To meet Chemical Weapons Convention disposal deadlines, Milestones I and II were combined and commitment was made to construct full-scale pilot facilities to test the disposal technologies for both the ABCDF and NECDF. In 1997, the Under Secretary of Defense for Acquisition and Technology gave Milestone I and II approvals for pilot testing the recommended technologies.

This article addresses the successful management and business practices that are being employed in the ATA Program.

Acquisition Strategy

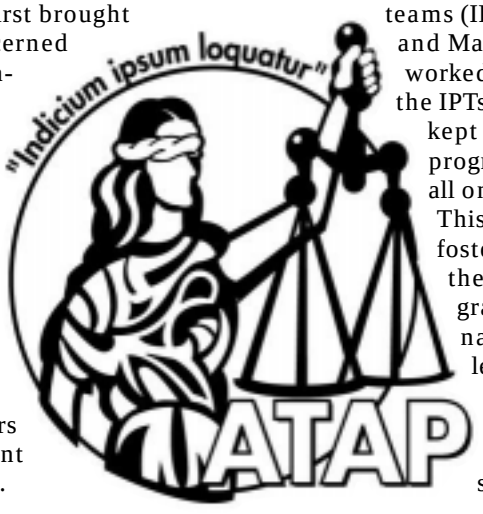
It was determined that an acquisition strategy with a "business as usual" approach would not serve the best interests of the ATA Program. After signing systems contracts in October 1998 and March 1999 for the ABCDF and NECDF, respectively, the ATA Program Office adopted an approach in which the contractor is responsible for everything from final design to closure. A subset of this method also eliminated the use of government-furnished equipment. The ATA Program Office's streamlined acquisition approach was subsequently codified into the new DoD Instruction 5000.2, effective October 2000.

The ATA Program Office's acquisition strategy also incorporated two unique policies. The first brought all stakeholders—concerned community representatives and state and local agencies—into the technology-evaluation process. The second policy established detailed and objective assessment criteria prior to the examination of the proposed technologies and provided them to all stakeholders for review and comment prior to the evaluation. These policies were developed to address the following stakeholder concerns: alternatives to incineration were being overlooked, and there were preconceived ideas about the disposal technologies that would be used at the bulk-agent storage sites. As a result, stakeholders were continually informed, and the evaluation results were presented to all involved parties.

Once the technology options were selected, the program's management strategy depended heavily on the use of concurrent science and engineering to accelerate progress from the laboratory and bench scale to a full-scale pilot facility. This strategy paved the way for the highly successful Milestone I/II in-process review and resulted in the program's rapid progress.

Management Philosophy

An important aspect of the ATA Program Office's management philosophy was the use of integrated product teams (IPTs). The Indiana and Maryland CACs worked in concert with the IPTs. Everyone was kept informed of the program's status and all ongoing activities. This communication fostered support for the disposal program and eliminated the problems that can occur when presumed "surprises" are presented to



stakeholders. Because all stakeholders were involved, the IPT also served to streamline regulatory actions by expediting comment resolution and approvals. This approach helped the ATA Program Office take bold actions and assume prudent risks with CAC support, reduce costs and shorten schedules, while maintaining safety as the top priority.

In the daily management of the ATA Program, the ATA Program leadership and staff focused on the overall goal of demilitarizing the stockpile and closing the demil facilities. The urge to focus exclusively on getting to the next phase was avoided. Rather than rely on Department of the Army (DA) waivers to meet scheduled milestones and maintain costs, the leadership intensively managed the critical path and incorporated goals and targets from the baseline-incineration program. This intense management style was supported by technical and operations staff from the U.S. Army Soldier and Biological Chemical Command. These personnel were experienced in chemical agent research and development or construction of binary chemical agent facilities.

The matrixed staff was augmented by personnel from the Office of the Program Manager (PM), Chemical Demilitarization, who were skilled in public outreach, operations and design, risk management, environmental monitoring, resource management, and program evaluation and integration. The combined team had the skills and experience to expeditiously resolve problems and minimize delays.

Testing And Evaluation

The ATA Program leadership had to ensure that the test data on which its decisions were based were indisputable and sufficient in scope to address all program issues. To accomplish this, a Test and Evaluation Master Plan (TEMP) was carefully crafted and submitted to the Office of the Secretary of Defense and DA test committees for comment. The Deputy Under Secretary of the Army for Operations Research gave final approval of the TEMP. This additional coordination resulted in a more efficient and effective testing program.

The testing was under the control of a Test Integration Working Group (TIWG) that prepared the test plan report. Data requirements were outlined in a report that could be presented to stakeholders and decision-makers. Missing data requirements were quickly identified and added to the program. The TIWG also ensured that all data were analyzed and validated as they were generated so that uncertainties could be immediately addressed and requirements for additional testing identified.

Environmental Permitting

Environmental permitting is a critical activity in developing and operating chemical agent demilitarization facilities. Before permits are issued, state environmental agencies carefully scrutinize such programs to ensure absolute safety for the facility's staff, civilian communities, and the environment. Required environmental permits normally take 3 to 5 years to obtain. However, the ATA Program Office acquired the necessary permits in only 20 months for ABCDF, and 19 months for NECDF.

Two factors contributed to permitting process success. The first factor is the effort made by the ATA Program Office leadership to involve stakeholders and CACs in the program through the IPT process. This strategy allowed ATA Program Office staff to provide information and address emerging issues before they became a permit impediment. Additionally, this strategy allowed ATA Program staff to keep environmental officials up to date and provide them with a detailed understanding of the program prior to submitting the official paperwork for permits. This significantly minimized the state's permit review time.

The testing program was the second factor responsible for the ATA Program Office's success. Immediate validation of the test data allowed the ATA Program Office to meet regulatory information requirements quickly. In addition, letting the "data speak for itself" made the regulator's job easier and expedited issuance of the necessary permits.

Conclusion

The ATA Program is an excellent example of effective management and use of good business practices. Program results show how sound, upfront planning and keen attention to detail lead to success. The ATA Program has evolved in a short time to where contracts have been awarded for demilitarizing facilities at both bulk agent storage sites. These accomplishments are above the norm for military programs of this scale. Hence, the ATA Program Office serves as a positive example of how a major research and development program should and can be managed. The following points capture the spirit of the ATA and are worth remembering:

- Know which issues require "micro" versus "macro" attention;
- Demonstrate moral courage and candor at all times;
- Maintain proficiency at communicating within a highly politically influenced project; and
- "Let the data speak for itself."

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